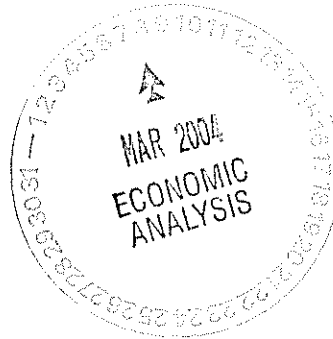




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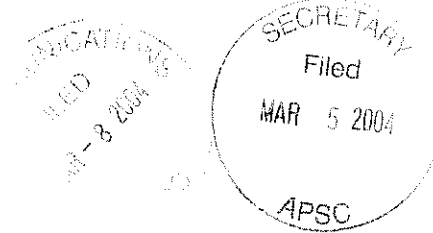


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March 5, 2004

BY HAND DELIVERY

Mr. Walter Thomas
Secretary
Alabama Public Service Commission
RSA Union Building
8th Floor
100 N. Union Street
Montgomery, Alabama 36104



Re: Implementation of the Federal Communications Commission's Triennial Review Order (Phase II - Local Switching for Mass Market Customers); Docket No. 29054

Dear Mr. Thomas:

Enclosed herewith for filing on behalf of Competitive Carriers of the South, Inc., in the above-referenced matter, are the original and ten copies the public version of the rebuttal testimony of Joe Gillan, with the original and ten copies of exhibits JPG-5, JPG-4 and JPG-7, thereto. Only one copy of exhibits JPG-6 and JPG-8 are filed herewith under seal, as these exhibits contain confidential and proprietary information.

Also enclosed for filing, under seal, is one copy of the confidential version of the rebuttal testimony of Mr. Gillian.

Very truly yours,

Robin G. Laurie

RGL:dpe
Enclosures

cc: Counsel of Record

**BEFORE THE
ALABAMA PUBLIC SERVICE COMMISSION**

IN RE:)	
)	DOCKET NO. 29054
Implementation Of The Federal Communications)	
Commission's Triennial Review Order (Phase II -)	Filed: March 5, 2004
Local Switching for Mass Market Customers).)	
)	

**REBUTTAL TESTIMONY AND EXHIBITS OF
JOSEPH GILLAN
ON BEHALF OF COMPSOUTH
PUBLIC VERSION**

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I. Introduction

1

2

3 **Q. Please state your name and the party you are representing.**

4

5 A. My name is Joseph Gillan. I filed direct testimony on behalf of CompSouth in
6 this proceeding.

7

8 **Q. What is the purpose of your rebuttal testimony?**

9

10 A. The principal purpose of my rebuttal testimony is to address the claim by
11 BellSouth that there is sufficient mass market local competition by switch-based

1 CLECs in Alabama to justify finding that the FCC-described “triggers” are
2 satisfied. Among other deficiencies, BellSouth counts enterprise switches as mass
3 market switches in violation of the TRO,¹ it ignores whether carriers are *actively*
4 *providing* mass market services today, and it disregards whether any of its trigger
5 candidates are affiliated with the incumbent.

6
7 The Commission’s evaluation of potential trigger candidates must not be taken
8 lightly. As the FCC explained, the purpose of its trigger analysis is to consider
9 whether “actual marketplace evidence shows whether new entrants, as a practical
10 matter, have surmounted barriers to entry in the relevant market,”² so that “...it is
11 feasible to provide service without relying on the incumbent LEC.”³ Or, more
12 simply: “If the triggers are satisfied, the states need not undertake any further
13 inquiry, because no impairment should exist in that market.”⁴

14
15 The FCC provided the states with the guidance and latitude to apply the triggers
16 in a manner true to their purpose. A faithful application of the triggers should
17 produce outcomes consistent with the FCC’s own findings – that is, where a state
18 commission observes facts that are comparable to data that the FCC used to find

¹ Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, CC Docket Nos. 01-338, 96-98 and 98-147, Released August 21, 2003 (“Triennial Review Order” or “TRO”).

² TRO ¶ 99.

³ TRO ¶ 93.

⁴ TRO ¶ 494, emphasis added.

1 impairment, then that *same* set of facts cannot be abused in a “trigger analysis” to
2 reverse that finding. The FCC was clear that the states were to apply judgment in
3 the same manner as the FCC: “To ensure that the states implement their delegated
4 authority in the same carefully targeted manner as our federal determinations, we
5 set forth in this Order federal guidelines to be applied by the states in the
6 execution of their authority pursuant to federal law.”⁵ Arriving at consistent
7 decisions when presented with consistent facts is an important feature of the TRO.

8
9 The level and form of competitive activity cited by BellSouth in this proceeding –
10 even if their data is accepted as accurate -- is no different than that which the FCC
11 rejected in the TRO as being adequate proof of non-impairment. Even if all of the
12 UNE loops provided by BellSouth are assumed to be mass market – and, as my
13 testimony explains below, UNE-L carriers are actually focused on offering
14 enterprise and not mass market services – the competitive share of UNE-L is less
15 than 1%.⁶ The FCC was well aware that *some* analog loops were being purchased
16 by CLECs, however, yet it *repeatedly* rejected claims that trivial levels of UNE-L
17 activity (including levels larger than BellSouth shows here) justified a finding of
18 non-impairment.⁷

⁵ TRO ¶ 189.

⁶ Source: BellSouth Form 477 Local Competition Filings with the FCC.

⁷ As I discuss later in this testimony, we have not yet located in BellSouth’s data responses the summary workpaper that Ms. Tipton provided in other states. Because this data is necessary to evaluate BellSouth’s trigger claims, we must reserve the opportunity to file supplemental testimony once this issue is resolved.

1
2 As I explain below, the facts show that the mass market switching triggers have
3 not been satisfied in Alabama. BellSouth's claims that it should be excused from
4 its federal obligation under section 251 of the Act to offer unbundled local
5 switching should be denied.⁸

6
7 **Q. In addition to responding to BellSouth's claims regarding the self-provider**
8 **switch trigger candidates, does your rebuttal testimony address any other**
9 **issues?**

10
11 **A.** Yes. In addition to evaluating the trigger assertions by BellSouth, the rebuttal
12 testimony also addresses:

13
14 * The appropriate "market area" that the Commission should use for
15 the evaluation of impairment, and

16
17 * The appropriate DS0 to DS1 crossover point that sets the
18 "regulatory" upper limit of the mass market.

19

⁸ As explained in my direct testimony, BellSouth remains obligated to offer unbundled local switching under section 271's competitive checklist, as well as the Commission's Price Cap Order.

1 As the testimony below explains, the Commission should reject BellSouth's
2 proposal to use "component economic areas" (CEAs) to define the relevant
3 geographic area of the mass market. These areas have nothing to do with
4 telecommunications – indeed, prior to BellSouth's testimony in this proceeding,
5 the Commission would have been hard pressed to find anyone in the industry that
6 was even familiar with the term. The Commission should instead adopt a larger
7 area that more closely reflects the broad nature of the mass market, such as the
8 LATA boundaries that have defined Alabama's "exchange markets" for the past
9 two decades.

10
11 With respect to the "DS0-to-DS1" crossover, I recommend that the crossover in
12 the testimony of Mark Argenbright should be adopted. The calculation provided
13 by Mr. Argenbright is consistent with the approach described in my direct
14 testimony and reasonably estimates the boundary line between the "enterprise"
15 and "mass market" as required by federal rules, albeit an estimate that is (as
16 explained in my direct testimony) likely to be conservative and potentially too
17 low.⁹ The specific calculation is based on an analysis performed by Sprint in
18 Florida and, as a result, is implicitly endorsed by an incumbent. The Commission
19 should not – indeed, it cannot -- adopt BellSouth's proposed "3-line cutoff,"

⁹ Given all this issues that need to be addressed in this proceeding, devoting additional time and resources to further perfect this calculation is not warranted at this time.

1 which is not supported by any evidence in this proceeding and, therefore, violates
2 the requirements of the TRO.¹⁰

3
4 **Q. Before turning to these specific issues, do you have a preliminary comment?**

5
6 A. Yes. If there is a single exhibit that captures the core debate in this proceeding, it
7 is Exhibit JPG-4 (attached). Exhibit JPG-4 compares the competitive lines added
8 by UNE-P and UNE-L, by wire center, throughout the state of Alabama over the
9 past six months.¹¹ This exhibit best compares the level and geographic reach of
10 the local competition currently underway in Alabama through the two relevant
11 entry strategies, UNE-L (loops *without* switching) and UNE-P (loops *with*
12 switching). The difference between UNE-P and UNE-L could not be more
13 striking – and it is this difference that is made possible by access to unbundled
14 local switching. As JPG-4 shows, UNE-P is actively bringing local choice to
15 every BellSouth exchange in the state, no matter how large or small. In contrast,
16 UNE-L is simply incapable of achieving anything on this scale.

17
18 In its simplest form, BellSouth is asking the Commission to conclude, based on
19 the activity of UNE-L (the bottom chart on JPG-4), that UNE-P (the top chart) is
20 not needed in Alabama. Exhibit JPG-4 graphically illustrates the absurdity of that

¹⁰ The TRO makes clear (§ 497, emphasis added) that “... a state must determine the appropriate cut-off for multiline DSO customers as part of its more granular review.”

¹¹ Source: BellSouth Response to CompSouth No. 3 and AT&T No. 56.

position (although it is equally clear from the exhibit why BellSouth would want the Commission to reach that conclusion – eliminate UNE-P and BellSouth’s local monopoly is restored). Using the nomenclature of the TRO, the difference between the upper and lower graphs provides a vivid illustration of the impairment that constrains UNE-L that is overcome through access to unbundled local switching (thereby making UNE-P possible).

Q. Is UNE-P critical to both mass market residential and mass market business customers?

A. Yes. Table 1 analyzes the same data concerning the most recent competitive activity to determine the importance of unbundled local switching to residential and business customers in each of Alabama’s LATAs.

**Table 1: Current Competitive Activity in BellSouth LATAs
(Most Recent Six Months – April to Sept. 2003)**

BellSouth LATA	Share Gain by Method		UNE-P Share by Customer	
	UNE-P	UNE-L	Residential	Business
Atlanta	8.8%	0.0%	9.8%	4.9%
Birmingham	6.0%	0.0%	7.1%	5.6%
Huntsville	6.1%	0.0%	7.4%	5.4%
Mobile	8.0%	0.0%	9.1%	8.0%
Montgomery	6.8%	0.0%	8.2%	5.3%
Pensacola	8.8%	0.0%	9.3%	12.1%
Statewide	6.5%	0.0%	7.7%	5.8%

As Table 1 demonstrates, competitive activity from UNE-P is roughly 300 times that of UNE-L statewide, and even more in a number of LATAs. UNE-P brings competition to more places and more extensively than any alternative. Moreover,

UNE-P is just as important to competition for the mass market business customer as it is for the mass market residential customer.¹²

There are a number of complex arguments in this case, but this much should be clear. Congress fully expected local competition would rely upon access to unbundled local switching, specifically listing local switching in section 271's competitive checklist and twice referencing it in the Joint Explanatory Statement that accompanied the Act:

The term "network element" was included to describe the facilities, such as local loops, equipment, such as switching, and the features, functions, and capabilities that a local exchange carrier must provide for certain purposes under other sections of the conference agreement.

Some facilities and capabilities (e.g., central office switching) will likely need to be obtained from the incumbent local exchange carrier as network elements pursuant to new section 251.¹³

Congress' vision is beginning to emerge in Alabama (and other states in the nation) precisely as intended – for the average user, in the average community, across the nation. I will explain in more detail below exactly why BellSouth's

¹² I remind the Commission that the “mass market” is defined by the access method – analog or digital – and not the “customer label” used in retail tariffs. Table 1 underscores the fact that UNE-P is a critical entry strategy across the *entire* mass market, including the segment of mass market customers represented by small businesses.

¹³ Joint Explanatory Statement of the Committee of Conference, Report No. 104-458, 104th Congress, 2nd Session, emphasis added.

1 trigger claims are insufficient to withdraw access to local switching, as well as
2 how the Commission should structure its analysis of the mass market (as to
3 geography and customer size) to comply with the TRO. What should not be lost
4 in the details of these analyses, however, is the fundamental reality that UNE-P is
5 bringing competitive choice to customers that would fall by the wayside if it were
6 not available.

7
8 **II. Market Definition: Geographic Area and the DS0/1 Cutover**

9
10 **Q. Have you reviewed the proposed geographic areas suggested by BellSouth for**
11 **the Commission to use in its review of impairment?**

12
13 A. Yes. BellSouth is recommending that the Commission rely on the Bureau of
14 Economic Analysis' "component economic areas" (CEA). BellSouth further
15 recommends that the geographic areas be subdivided according to UNE rate
16 zones.

17
18 **Q. Do you support either of these approaches?**

19
20 A. No. First, as I noted in my direct testimony, one of the defining characteristics of
21 the mass market is that mass market customers reside *throughout* Alabama.
22 Artificially limiting an analysis to only those customers located within

1 “component economic areas” having nothing to do with competitive activity,
2 ignores the primary defining characteristic of the mass market as a broadly
3 dispersed customer set.

4
5 **Q. Should the Commission adopt “component economic areas” as suggested by**
6 **BellSouth?**

7
8 **A.** No. As a threshold observation, after more than 20 years of telecommunications
9 experience dealing with a wide range of competitive issues, I had never come
10 across any mention of the Bureau of Economic Analysis’ (“BEA’s”) “component
11 economic area” until BellSouth’s testimony was filed in these proceedings.
12 Without becoming too caught up in common sense, just how relevant can the
13 CEA be to market entry and impairment if it had never surfaced in any industry
14 discussion before now?

15
16 Second, the BEA’s *component* economic areas are exactly that – a “middle step”
17 in the process of defining economic areas that “serve as centers of economic
18 activity.” Not only do these areas have nothing to do with telecommunications,
19 they are not even the final product in the BEA’s effort to identify economic areas
20 that include, so far as possible, “the place of work and the place of residence of its
21 labor force.”¹⁴ Although the BEA begins with “component areas,” these are

¹⁴ For completeness, I have attached as Exhibit JPG-5, an article published in the Survey of Current Business that describes the development of “economic areas,” including the intermediate

1 intended to be building blocks that aggregate into economic areas that are
2 “economically large enough to be part of the BEA’s local area economic
3 projections.”
4

5 This last observation highlights the final problem with the “CEA approach.” The
6 BEA itself has decided that CEAs are not sufficiently large even for *its* purpose of
7 developing projections of economic activity. In effect, BellSouth is claiming that
8 areas that are too *small* for economic modeling are somehow sufficiently *large*
9 that an entrant serving that area alone would be able to take advantage of
10 available scale and scope economies.
11

12 **Q. Does it make sense for the Commission to use UNE -- which is to say loop --**
13 **rate zones in evaluating impairments associated with unbundled local**
14 **switching?**
15

16 **A.** Generally, no. As the question indicates, UNE rate zones create different rates for
17 the loop element. Although there are modest price differences between loops
18 used individually and loops obtained as part of UNE-P, the effect of deaveraged
19 loop rates should have little effect on the *relative* ability of a CLEC to use (or not
20 use) its own switching to compete. Whether a CLEC is using UNE-P or UNE-L,
21 the constant is the need to purchase the unbundled loop. In other words, while

step of the “component economic area.”

1 UNE rate zones may affect competition overall, the issue here concerns the
2 relative operational and other barriers to competition for mass market customers
3 that are mitigated by access to unbundled local switching. The consideration of
4 UNE loop rate zones thus has no place in the analysis of impairment as it relates
5 to the availability of unbundled local switching.
6

7 **Q. Do you have an overall comment about BellSouth's proposed "markets?"**
8

9 **A.** Yes. Mass market competition is interdependent – that is, competition in rural
10 wire centers is possible because of competition in suburban wire centers; and
11 competition in suburban wire centers is possible because of competition in urban
12 centers. It is simply misleading to “force” granularity for the sake of granularity.
13 The fact is that the mass market is not discrete, and it requires – as its very name
14 suggests – *mass* in order for a competitor to succeed. BellSouth's proposal would
15 subdivide its territory into 34 discrete areas, as though carriers could individually
16 enter as few as one and compete for residential and small business customers.
17 Notably, several CEAs are smaller than many of BellSouth's wire centers, and
18 BellSouth claims its wire centers are too small to qualify as “markets” under the
19 TRO. Table 2 shows the number of retail lines located in each of BellSouth's
20 claimed “mass markets” (i.e., each of the 34 discrete areas that it claims should be
21 used for impairment analysis).

1

**Table 2: Access Lines in BellSouth's Proposed Markets
(Markets Where BellSouth Claims Non-Impairment in Bold)**

Component Economic Area	Zone 1	Zone 2	Zone 3
Anniston	20,010	45,981	5,583
Atlanta			7,430
Birmingham	366,155	113,297	52,342
Columbus	22,968	70,817	20,486
Decatur	35,768	9,971	15,430
Dothan		10,103	1,552
Florence	19,566	29,319	29,588
Gadsden	20,304	25,873	
Huntsville	119,041	72,213	9,584
Meridian		6,402	12,177
Mobile	164,709	35,470	32,520
Montgomery	103,394	67,552	8,479
Tuscaloosa	38,260	20,918	25,994

2

3

Q. Do you believe that CLECs would approach the mass market in the highly discrete manner claimed by BellSouth?

4

5

6

A. No. The mass market is located throughout the state and the issue (as it relates to the "triggers") is to determine whether there is sufficient competition *across* that market from alternatives to determine that unbundled access to local switching is not necessary.¹⁵

7

8

9

10

11

Although BellSouth's "market definition" approach is needlessly complex and gratuitously granular, it is essentially irrelevant as well, because even after

12

¹⁵ I remind the Commission, but do not repeat here, my general caveats concerning BellSouth's continuing obligations under section 271 and the Commission's own Price Cap Order.

1 splitting the state into 34 discrete pieces, BellSouth claims that the triggers are
2 met virtually everywhere anyway. BellSouth combines its preferred market
3 definition with a flawed interpretation of the FCC's trigger criteria that would
4 have the effect of ending competition statewide. Indeed, BellSouth claims that
5 the triggers are met in "markets" containing roughly 37% of its access lines.
6 Adding those "markets" where BellSouth claims that CLECs are unimpaired
7 based on its "potential deployment" analysis would foreclose UNE-P based
8 competition in roughly 96% of the state.

9
10 **Q. Would BellSouth's recommendation essentially close Alabama to local**
11 **competition for mass market customers?**

12
13 **A. Yes.** As Table 1 shows, UNE-P produces competition at a completely different
14 level and scope than UNE-L. UNE-P brings competition to the heart of the mass
15 market (the residential customer), it brings needed competition to the forgotten
16 mass market customer (the small business), and it brings competition to
17 essentially every BellSouth wire center in the state. As I explained earlier, Exhibit
18 JPG-4 contrasts the share gain of UNE-P to that of UNE-L for each of
19 BellSouth's wire centers during the most recent six months (April to September,
20 2003). Exhibit JPG-4 demonstrates that the competitive benefits achieved by
21 UNE-P are both broader and more substantial than that possible without access to
22 unbundled local switching.

1

2 **Q. What geographic areas do you recommend?**

3

4 A. I recommend that the Commission use LATAs to evaluate impairment. As I
5 noted repeatedly above, the mass market is spread throughout BellSouth's service
6 territory in Alabama and *any* lesser area could potentially camouflage the
7 importance of this fact. However, the evidence (see Table 1) suggests that each
8 LATA is sufficiently comparable to the state overall that the Commission's
9 analysis would not be distorted by using these pre-existing areas in its analysis.
10 Other advantages are that LATA boundaries conform to wire center boundaries
11 (which are the fundamental building block of any analysis), the boundaries are
12 well understood (at least within the industry), and the boundaries were once
13 drawn to approximate the "local market" (albeit 20 years ago).

14

15 **Q. What DS0/DS1 crossover should the Commission use to define the "upper**
16 **limit" of the mass market?**

17

18 A. The TRA should adopt a crossover of 12 lines, as demonstrated by the testimony
19 of Mark Argenbright. Mr. Argenbright has applied a formula sponsored by Sprint
20 in the Florida proceeding to Alabama-specific data. The Sprint/Argenbright
21 calculation is complies with the criteria outlined in my direct testimony and is a
22 conservative estimate (i.e., it produces a cut-off that is too low) that fully

1 complies with the TRO's direction that state commissions establish a fact-based
2 cut-off as part of their granular review.¹⁶

3
4 **Q. Do you have any comment on BellSouth's suggestion that the "default" 3-line**
5 **limit should apply?**

6
7 A. Yes. BellSouth's proposed "3-line" value violates the TRO's specific direction
8 that the cut-off should be established at the point where "it is economically
9 feasible for a competitive carrier to provide voice service with its own switch
10 using a DS1 or above loop."¹⁷ BellSouth has offered no analysis that
11 demonstrates that 3-line voice customer could be economically served with DS-1
12 loop. Rather, BellSouth claims that it has "accepted the FCC's default" of 3-
13 lines.¹⁸

14
15 **Q. Is there a default 3-line invitation for BellSouth to "accept?"**

16
17 A. No, there is no "default" 3-line cap on the mass market. The FCC explicitly *did*
18 *not* (except for an interim period during which State Commissions address
19 impairment issues) preserve the "three line" (sometimes called the 4-line) rule,
20 which was a point of controversy with Commissioner Abernathy:

¹⁶ TRO ¶ 497.

¹⁷ TRO ¶421, n.1296.

¹⁸ Blake Direct, page 8.

1
2 Commissioner Abernathy claims that our decision not to preserve
3 the previous Commission's four-line carve-out represents a
4 "potentially massive expansion" of unbundled switching.
5 *Commissioner Abernathy Statement* at 8 n.27. This claim makes
6 no sense. If a state finds that the appropriate cut-off for
7 distinguishing enterprise from mass market customers in density
8 zone 1 of the top 50 MSAs is four lines, there will be no more
9 unbundled switching available than there was under the previous
10 carve-out.¹⁹
11

12 Moreover, the prior limitation applied only in *selected* end-offices (i.e., those
13 Zone 1 end offices in the top 50 MSAs),²⁰ with *no limit* in any other area. Such a
14 structure is incompatible with a crossover point developed based on evidence
15 related to the relative costs of serving customers using analog loops or DS-1 loops
16 and the necessary customer premise equipment and other costs associated with
17 provisioning the DS-1 (even in a simple calculation).
18

19 There is no basis to support the claim that 3 lines is a reasonable measure of when
20 a customer should be served by a DS-1 (which provides capacity for 24 lines and
21 requires costly equipment to convert a customer's voice traffic into digital format
22 for multiplexing onto a loop that is significantly more expensive than a simple
23 phone line). BellSouth's "proposal" to accept a non-existent invitation from the
24 FCC must be rejected.

¹⁹ TRO ¶ 497, n. 1546, emphasis added.

²⁰ It should be noted that the "Zone 1" offices are those used by the FCC for special access pricing flexibility, and are not the same as the "Zone 1" used for deaveraged UNE rates.

III. Evaluating the Alleged Mass Market Switching Trigger Candidates

Q. Have you completed your analysis of BellSouth's claims regarding the self-provisioning switch triggers?

A. No. An important element of my review of BellSouth's claimed self-provisioning switch triggers (at least in other states) is a worksheet that summarizes the information relied upon by BellSouth witness Tipton (by carrier, by wire center) in developing her recommendations. Unfortunately, it does not appear that BellSouth has provided that worksheet in response to the same discovery questions in Alabama as it has in other states.²¹ Importantly, Ms. Tipton's workpapers cannot be evaluated without access to her summary worksheet. Consequently, the following review of BellSouth's claims is preliminary until the summary worksheet is located/provided and I have had the opportunity to review Ms. Tipton's analysis in detail.

Q. Please summarize BellSouth's basic claim that the FCC's triggers have been satisfied.

A. The essence of BellSouth's testimony is that trigger analysis can be conducted blindfolded, simply by counting to three:

²¹ My understanding is that the Tipton summary has been provided in response to AT&T Data Requests 113, 114 or 115 in other states.

1
2 The self provisioning trigger is straightforward: the Commission
3 must find “no impairment” for unbundled switching when three or
4 more unaffiliated competing carriers are serving mass market
5 customers in a particular market²²
6

7 BellSouth has reduced the trigger analysis from an examination of actual
8 marketplace conditions to an arithmetic oversimplification that ignores the
9 substantial guidance that the FCC has provided as to *how* the trigger analysis is to
10 be conducted. It is true that the trigger analysis is different than the potential
11 deployment analysis in that it requires that the Alabama Commission focus on an
12 objective standard (three self-providers) and data regarding the deployment of
13 alternative switching that is actually serving the mass market. That does not
14 mean, however, that the Alabama Commission is not expected to interpret the
15 data to make sure that each proffered trigger candidate is a “true alternative” that
16 is “...actively providing voice service to mass market customers in the market.”²³
17

18 **Q. Has the FCC indicated that it expects state commissions to conduct their**
19 **impairment analysis applying the same analysis as the FCC conducted?**
20

21 **A.** Yes. As I indicated in my introduction, the FCC was clear that it expected states
22 to apply judgment in the same manner as the FCC: “To ensure that the states

²² Tipton Direct, page 5.

²³ TRO ¶ 499.

1 implement their delegated authority in the same carefully targeted manner as our
2 federal determinations, we set forth in this Order federal guidelines to be applied
3 by the states in the execution of their authority pursuant to federal law.”²⁴

4
5 There is nothing in the TRO that suggests the FCC expected the states to apply
6 the trigger analysis in a manner that ignored its guidance, with the result being
7 states reversing the FCC’s national impairment finding by reviewing data no
8 different than the FCC considered. Rather, the FCC expected consistency
9 between its analysis and that of the states, with similar facts producing:

10
11 For example, we [the FCC] note that CMRS does not yet equal
12 traditional incumbent LEC services in its quality, its ability to
13 handle data traffic, its ubiquity, and its ability to provide
14 broadband services to the mass market. Thus, just as CMRS
15 deployment does not persuade us to reject our nationwide finding
16 of impairment, at this time, we do not expect state commissions to
17 consider CMRS providers in their application of the triggers.²⁵
18

19 As noted above, where conditions and/or circumstances are comparable to those
20 reviewed by the FCC, the TRO makes clear that the FCC expects the states to
21 reach the same findings as the TRO.

22
23 **Q. Is BellSouth’s claim that the triggers are satisfied in Alabama consistent with**
24 **this principle (i.e., that consistent facts should produce consistent findings)?**

²⁴ TRO ¶ 189.

²⁵ TRO ¶ 499, n. 1549, footnotes omitted, emphasis added.

1

2 A. No. Consider the following. According to BellSouth's June 2003 Local
3 Competition report to the FCC, the total market share of UNE-L in its Alabama
4 exchanges is only 0.7%. This includes loops being used to serve enterprise
5 customers, as well as loops sold to companies not even claimed by BellSouth as
6 triggers. Even if every UNE-L in Alabama is assumed to be sold to the alleged
7 trigger providers, however, and further assuming that each UNE-L is being used
8 to provide mass market services, the share is below levels *already* rejected by the
9 FCC as demonstrating non-impairment.

10

11 **Q. Has the FCC repeatedly reject market activity on the level claimed by**
12 **BellSouth here as proving non-impairment?**

13

14 A. Yes. For example, consider the following claims of low-level competitive
15 activity that all ended with the FCC national finding of impairment for mass
16 market switching:

17

18 ...the record indicates that competitive LECs have self-deployed
19 few local circuit switches to serve the mass market. The BOCs
20 claim that, as of year-end 2001, approximately three million
21 residential lines were served via competitive LEC switches.
22 Others argue that this figure is significantly inflated. Even
23 accepting that figure, however, it represents only a small
24 percentage of the residential voice market. It amounts to less than

26 TRO ¶ 438, footnotes omitted, emphasis added.

27 TRO ¶ 443, footnotes omitted, emphasis added.

28 TRO ¶ 444, footnotes omitted, emphasis added.

29 TRO ¶ 443, n. 1356, emphasis added.

1 In particular, only about three to five percent of CMRS subscribers
2 use their service as a replacement for primary fixed voice wireline
3 service, which indicates that wireless switches do not yet act
4 broadly as an intermodal replacement for traditional wireline
5 circuit switches.³⁰
6

7 The ILECs have already tried to use low levels of competitive activity as
8 marketplace evidence of non-impairment and the FCC's rejected those attempts
9 with a national finding of impairment. Obviously, it would be inconsistent for the
10 FCC to delegate to the states a trigger analysis that, when applied to data showing
11 the same de minimus levels of competitive activity reviewed and rejected by the
12 FCC, produced findings that reversed the FCC's national finding of impairment.
13

14 **Q. Have you also reviewed each of the individual trigger candidate against the**
15 **qualifying criteria discussed in the TRO?**
16

17 A. Yes (to the extent that I am able to without complete access to Ms. Tipton's
18 workpapers). The full criteria are addressed in my direct testimony in this
19 proceeding. The reviewing criteria that I recommend are drawn directly from the
20 TRO and parallel, wherever possible, comparable findings and analysis of the
21 FCC. This is precisely the type of analysis that the FCC intended, with the states
22 evaluating local conditions by applying the guidance found in the TRO. The

³⁰ TRO ¶ 445, footnotes omitted, emphasis added.

1 analysis here focuses on the “self-provisioning switching” trigger.³¹ In short
2 form, a self-provisioning trigger candidate must satisfy each of the following:
3

- 4 1. The self-provisioning trigger candidate’s switches must not
5 be “enterprise” switches.
6
- 7 2. The self-provisioning trigger candidate must be actively
8 providing voice service to mass market customers in the
9 designated market, including residential customers, and
10 must be likely to continue to do so.
11
- 12 3. The self-provisioning trigger candidate should be serving
13 mass market customers throughout the market area.
14
- 15 4. The self-provisioning trigger candidate should be relying
16 on ILEC loops or, at the very least, be providing a service
17 that is comparable to the ILEC service in cost, quality, and
18 maturity.
19
- 20 5. The self-provisioning trigger candidate may not be
21 affiliated with the ILEC or other self-provisioning trigger
22 candidates.
23
- 24 6. The existence of the self-provisioning trigger candidate
25 should be evidence of sustainable and broad-scale mass
26 market competitive alternatives in the designated market.
27

28 **Q. Does your testimony evaluate each trigger candidate against each of these**
29 **criteria?**
30

³¹ BellSouth does not claim that there are wholesale carriers in Alabama (Ruscilli, page 9).

1 A. No, not completely. First, it is important to understand that a potential trigger
2 candidate must satisfy each and every criterion in order to be legitimately
3 considered as one-of-three providers sufficient to support a finding that
4 impairment has been overcome in the specific geographic area. Consequently, if
5 a trigger candidate fails any single criterion, it may not be counted as a trigger and
6 further analysis is not necessary. In addition, my review is ongoing as additional
7 information becomes available. Finally, some of the criteria outlined in the TRO
8 – in particular, the “key consideration” as to “whether the providers are currently
9 offering and able to provide service, and are likely to continue to do so”³² – may
10 require a detailed examination of a particular candidate that would be unnecessary
11 if the candidate is disqualified for other reasons.

12
13 **Q. BellSouth maintains that the Alabama Commission is precluded from**
14 **evaluating “any other factors, such as the financial stability or well-being of**
15 **the competitive switch providers” in conducting a trigger analysis.³³ Do you**
16 **agree?**

17
18 A. Obviously I agree that the sentence does appear in the TRO. Where I part
19 company with BellSouth is with their interpretation that this *single* sentence wipes
20 away every other statement in the TRO that explains how the trigger analysis is to

³² TRO ¶ 500, emphasis added.

³³ Tipton Direct, page 5, citing TRO ¶ 500.

1 be conducted. For example, consider the paragraph that the sentence introduces
2 in its entirety:

3
4 For the purposes of these triggers, we find that states shall not
5 evaluate any other factors, such as the financial stability or well-
6 being of the competitive switching providers. Competing carriers
7 in Chapter 11 bankruptcy protection are often still providing
8 service. Regardless of their financial status, the physical assets
9 remain viable and may be bought by someone else and remain in
10 service. We note that requiring states to determine the financial
11 ability of competitive wholesale providers to provide service in the
12 future could hamper economic recovery efforts of companies in
13 financial distress. The key consideration to be examined by state
14 commissions is whether the providers are currently offering and
15 able to provide service, and are likely to continue to do so.³⁴

16
17 A couple of points are necessary to highlight here. First, when the passage
18 indicates that states should not consider “other factors,” that directive does not
19 suggest that the states should ignore the factors identified in the TRO. The FCC
20 specifically directed that the states are to approach the impairment analysis
21 considering the same types of factors that it applied (“to ensure that the states
22 implement their delegated authority in the same carefully targeted manner as our
23 federal determinations”),³⁵ which necessarily requires that the states consider the
24 same factors that the FCC applied in reaching its findings. Paragraph 500 cannot
25 be read to require that the states ignore factors relied upon by the FCC.

³⁴ TRO ¶ 500, footnotes omitted.

³⁵ TRO ¶ 189.

1 Second, within the very same paragraph that BellSouth cites favorably, the FCC
2 directs the states that “the key consideration” in a trigger review is the ability of
3 the provider to continue to offer service. The only way that this paragraph is
4 internally consistent is if it explains that a *past* bankruptcy is not to be considered,
5 but that any factor that would likely affect the *future* ability of the CLEC to
6 provide service must be a critical part of the analysis. Moreover, as noted above,
7 there is nothing in the passage that suggests that the FCC was directing the states
8 to ignore all the other guidance it provided, including requirements that enterprise
9 switches not be counted, that CLECs relying on their own loops should be
10 afforded less weight, and other factors and criteria described in my direct
11 testimony.³⁶

12
13 **Q. Turning to specific trigger candidates, which CLECs does BellSouth claim**
14 **are self-providers of local switching to provide mass market services?**

15
16 **A. The following table summarizes the trigger candidates identified by BellSouth:**

Table 3: Trigger Candidate

AT&T/Teleport	Network Telephone
ITC DeltaCom	Knology
KMC	Xspedius

17
³⁶ TRO ¶ 508 (“switches serving the enterprise market do not qualify for the triggers”), and footnote 1560, emphasis added, (“when one or more of the three competitive providers is also self-deploying its own local loops, this evidence may *bear less heavily* on the ability to use a self-deployed switch as a means of accessing the incumbent’s loops.”)

1 **Q. Have you evaluated the named mass market switching trigger candidates to**
2 **determine whether they satisfy the criteria in the TRO?**

3
4 A. Yes. In an effort to determine whether the named trigger candidates satisfy the
5 criteria to qualify as self-provisioning trigger candidates, I investigated (within
6 the limits of the time frame available to me) the types of services these carriers
7 offered to determine whether they satisfied the criteria outlined above.³⁷ I
8 understand that AT&T/TCG will file testimony that directly rebuts BellSouth's
9 claim that they are serving the mass market with their own local switching and
10 meet the criteria to be considered a "trigger" candidate.

11
12 **Q. Have you analyzed the loop-purchasing pattern of these claimed trigger**
13 **companies to determine whether BellSouth's claims in Alabama are**
14 **plausible?**

15
16 A. Yes. In response to discovery, BellSouth has provided the number of analog
17 loops leased to each trigger candidate for the period from May 2002 through
18 November 2003. The specific confidential information is provided in the Exhibit
19 JPG-6 (attached), with the most important statistics summarized below:

³⁷ Given the limited amount of time available to conduct this research, much of the research was conducted informally since the formal discovery process would not provide the needed information in time for the rebuttal filing date, and our review is ongoing.

1

Table 4: Scaling BellSouth's Trigger Claims

Mass Market Switch Trigger Claimed	Reduction in Analog Activity (5/02 to 11/03)	Estimated Mass Market Share
CLEC A	-22%	0.2%
CLEC B	-30%	0.2%
CLEC C	-100%	0.0%
CLEC D	-17%	0.0%
CLEC E	-46%	0.0%
Total	-215%	0.4%

2

3 As Table 4 makes clear, the analog-loop (which is to say, mass market) activity of
4 each of BellSouth's claimed candidates is trivial today and rapidly disappearing.
5 This is consistent with the company-by-company discussion below, which
6 explains that these companies are not mass market switch triggers. The activity
7 cited by BellSouth is either incidental to their enterprise businesses, or remnants
8 of a failed and abandoned strategy.

9

10

ITC^DeltaCom

11

12 **Q. BellSouth identifies ITC^DeltaCom as a trigger. Is this appropriate?**

13

14

15 **A. No.** Based on a review of information provided by ITC^DeltaCom ("ITCD"), it
16 cannot be considered a self-providing trigger candidate in Alabama. Specifically:

17

18

19

* ITCD's switches in Alabama are enterprise switches. The lines
served over ITCD's switches in Alabama overwhelmingly serve

1 digital enterprise customers. Specifically, ITCD has Begin
2 Proprietary ** ** End Proprietary VGE lines in Alabama. Of
3 these, there are only Begin Proprietary ** End Proprietary analog
4 lines operational in Alabama. The DSO numbers are an incidental
5 part of the ITC DeltaCom network. The bulk of the DSOs are
6 grandfathered, legacy customers.
7

8 * ITCD is not actively providing service to the mass market using
9 self-provisioned switches. ITCD did cut over analog customers to
10 its switch in the years 1997-2000. Since that time, however,
11 operational and economic problems with its UNE-L strategy led it
12 to serve mass market customers using UNE-P. ITCD thus has
13 some legacy retail mass market customers served on DSO loops
14 connected to its Alabama switches, but ITCD is not actively
15 marketing such services to new customers. The vast majority of
16 DSO loops provisioned to ITCD switches were provisioned prior to
17 the year 2000.
18

19 **Q. Did the FCC recognize that enterprise switches (such as those operated by**
20 **ITC^DeltaCom) would include some analog lines?**

21
22 **A.** Yes. The FCC understood that enterprise switches would serve some analog
23 lines, but that did not change its conclusion that enterprise switches should not be
24 counted in a trigger analysis.³⁸ For instance, the FCC specifically recognized data
25 that showed enterprise switches serving analog lines, and cited that data as
26 evidence that simply counting switches did not address the critical distinction
27 between the enterprise and mass markets:
28

29 Incumbent LECs claim that the Commission should remove
30 virtually all unbundling obligations regarding local switching on a

³⁸ TRO ¶ 508.

1 national basis simply because competitive carriers have deployed
2 1,300 switches and are serving, according to the BOC UNE Fact
3 Report 2002, over 16 million lines with those switches. This
4 argument, however, ignores significant differences in the evidence
5 concerning the enterprise market and mass market. The record is
6 replete with evidence showing that competitive LECs are
7 successfully using their own switches to serve large business
8 customers that require high-capacity loops (which can be
9 connected to competitive carrier switches with few of the obstacles
10 that affect voice-grade loops). For example, BiznessOnline.Com
11 cites data compiled by a coalition of competitive carriers which
12 examined six representative markets and found that approximately
13 90 percent of the loops used by competitive carriers in these
14 markets are DS1 capacity or higher loops.³⁹
15

16 As the above paragraph makes clear, the FCC was under no delusion that carriers
17 serving the enterprise market did so to the exclusion of all others. Rather, it
18 understood that such carriers would be predominately using DS-1 (or higher)
19 loops, even though some amount of analog activity might occur. Generally, the
20 carriers cited by the FCC as evidence that competitive CLECs were using their
21 switches to compete in the enterprise (but not mass) market relied on digital (DS-
22 1 and higher) loops for 80% to 90% of their connectivity. The specific study
23 referenced by the FCC is attached as Exhibit JPG-7 (Table 4).
24

25 **Q. Are ITC^Deltacom's switches "enterprise switches" or "mass market**
26 **switches"?**
27

³⁹ TRO ¶ 437, emphasis added.

A. ITC DeltaCom's has agreed to provide CompSouth with the line-counts on each of the switches claimed by BellSouth as trigger evidence. As shown below, each of ITC DeltaCom's switches should be considered "enterprise switches" based on the analysis used by the FCC.

Table 5: ITC^DeltaCom Switch Breakdown			
Switch Name	Digital VGEs	Analog VGEs	Percentage Enterprise
*	*	*	*
*	*	*	*
*	*	*	*

*Proprietary data

Based upon this data, ITC DeltaCom's should not be considered a mass market trigger candidate.

KMC Telecom

Q. Based on your review of information provided by the carrier, does KMC qualify as a trigger candidate?

A. No. Based on the information supplied by KMC, KMC should be considered an enterprise-oriented carrier and it should not be counted as a trigger candidate. I base this conclusion on the following:

* KMC does not actively market services to customers who desire to be served over analog DS0-level loops. KMC actively markets

1 only to customers who plan to purchase digital service at capacities
2 that justify the use of DS1-level loops.
3

4 * KMC does not actively market to nor does it provide residential
5 service in Alabama using its switches
6

7 * There are two specific instances in which KMC may offer DS0
8 level service while marketing only to DS1 level enterprise
9 customers. First, existing enterprise customers who order
10 additional voice services from KMC may, on occasion, be at
11 capacity on their existing DS1 facility, necessitating the
12 provisioning of individual DS0 level facilities at an existing
13 location. The second instance occurs when a prospective or
14 existing enterprise customer wishes to include other locations into
15 their service package, but those locations do not have sufficient
16 volume to justify a full DS1. KMC would also provision
17 individual DS0s to such locations.
18

19 **Q. Are KMC's switches "enterprise switches" or "mass market switches"?**
20

21 A. Only Begin Proprietary **** End Proprietary of KMC's switch is used to
22 provide analog based services. In contrast, Begin Proprietary **** End
23 Proprietary of the switch (as measured in VGEs) is used to provide digital-level
24 enterprise services. KMC is clearly an enterprise CLEC and its switches should
25 not be counted in the self-provisioning mass market trigger analysis.
26

27 Moreover, none of the lines served by KMC are residential lines, further
28 demonstrating that it is not a legitimate trigger candidate. Residential lines
29 constitute roughly 80% of the mass market lines in BellSouth's Alabama

1 territory.⁴⁰ Any carrier that ignores 80% of the mass market cannot be plausibly
2 considered to be “actively providing” mass market services.

3
4 Network Telephone

5
6 **Q. Does Network Telephone qualify as a self-providing switch trigger?**

7
8 **A. No.** Based on a review of information provided by Network Telephone, Network
9 Telephone should not be considered as a self-provider of local switching to serve
10 the mass market

11
12 * Network Telephone’s principal business is to actively market and
13 provide bundled voice and data services to the small to medium
14 size business customers within its limited marketing footprint.
15 These bundled voice and data services are provided utilizing
16 digital connectivity via unbundled DS1 loops and ADSL-
17 compatible/UDC network elements.

18
19 * The basic methods by which Network Telephone serves the small
20 and medium business customers’ bundled voice and data needs in
21 Alabama are via an unbundled DS1 loop, a 2 wire ADSL-
22 compatible loop, or a UDC loop, each provisioned to the Network
23 Telephone switch. With any of these configurations, Network
24 Telephone is required to install equipment at the customer’s
25 location and to make a connection at its collocated DSLAM in
26 order to provide the customer with voice service.

27
28 * Begin Proprietary**** End Proprietary of the loops utilized by
29 Network Telephone are DS1, ADSL-capable or UDC loops.

⁴⁰ Source: ARMIS 2001.

These loops provide customers with Network Telephone's bundled voice and data services. There would be no instance today where Network Telephone would provision an analog-grade loop such as an SL1 or SL2 to provide a small business customer with analog POTS service.

* The only residential customers that Network Telephone serves in Alabama today are “legacy” customers being served either via resale or UNE-P and not via Network Telephone’s switch.

As noted, Network Telephone only offers digital services, either through a DS-1 obtained from BellSouth, or by creating digital service using a copper loop. In other words, Begin Proprietary** End Proprietary its switch is used for enterprise service. Network Telephone does not provide analog mass market service and Network Telephone's enterprise switch may not be counted in a mass market trigger analysis.

Xspedius

Q. Is Xspedius a legitimate candidate as a self-providing mass market switching trigger?

A. No. Based on information provided by Xspedius:

* Xspedius's switches are enterprise switches and the principal business of Xspedius is to serve the enterprise and not the mass market in the areas in Alabama where these switches are located. Today, Xspedius actively markets to medium and large business enterprise customers with a high

1 demand for a variety of sophisticated data-centric telecommunications
2 services and solutions.
3

4 * Xspedius currently serves Begin Proprietary ** ** End Proprietary voice
5 grade equivalent lines (VGEs) in Alabama, of which only Begin
6 Proprietary ** ** End Proprietary are analog (i.e. Begin Proprietary * %
7 ** End Proprietary) of the switch is used to serve enterprise customers and
8 the switch should be counted as an enterprise switch. Xspedius has only
9 Begin Proprietary**** residential customers of Xspedius' total VGE's in
10 Alabama. These DS-0 customers are an incidental part of Xspedius'
11 business. Serving these DS-0 customers is not currently, and never has
12 been, a significant part of Xspedius sales and marketing efforts.
13

14 * Xspedius' principal product is Complete Xchange,TM an integrated T-1
15 product designed for and marketed to sophisticated small and midsize
16 companies with complex voice and data telecommunications needs.
17

18 * Xspedius utilizes an individualized contract with each customer.
19

20 As the above demonstrates, Xspedius is not actively providing mass market voice
21 services in Alabama and does not qualify as a mass market switch trigger.
22

23 **Other CLECs**
24

25 **Q. Have you completed your review of the BellSouth's claimed self-provisioning**
26 **switch triggers?**
27

28 **A.** No. As I indicated earlier, I am awaiting resolution as to the location of Ms.
29 Tipton's summary data and have not yet completed an analysis of Knology
30 (which is partially dependent upon access to Ms. Tipton's data). It is my

1 understanding that Knology's switch in West Point Georgia, serves as the ICO
2 switch for the Interstate and Valley Telecom Company, the incumbent telephone
3 company in the Valley Alabama and West Point, Georgia area. This would
4 suggest that Knology should not be considered a trigger as it is affiliated with an
5 incumbent local exchange carrier. I intend to supplement my testimony as soon
6 as additional information is available.

7
8 **Q. Does this conclude your rebuttal testimony?**

9
10 **A. Yes.**

**BEFORE THE
ALABAMA PUBLIC SERVICE COMMISSION**

IN RE:

**Implementation Of The Federal Communications
Commission's Triennial Review Order (Phase II -
Local Switching for Mass Market Customers).**

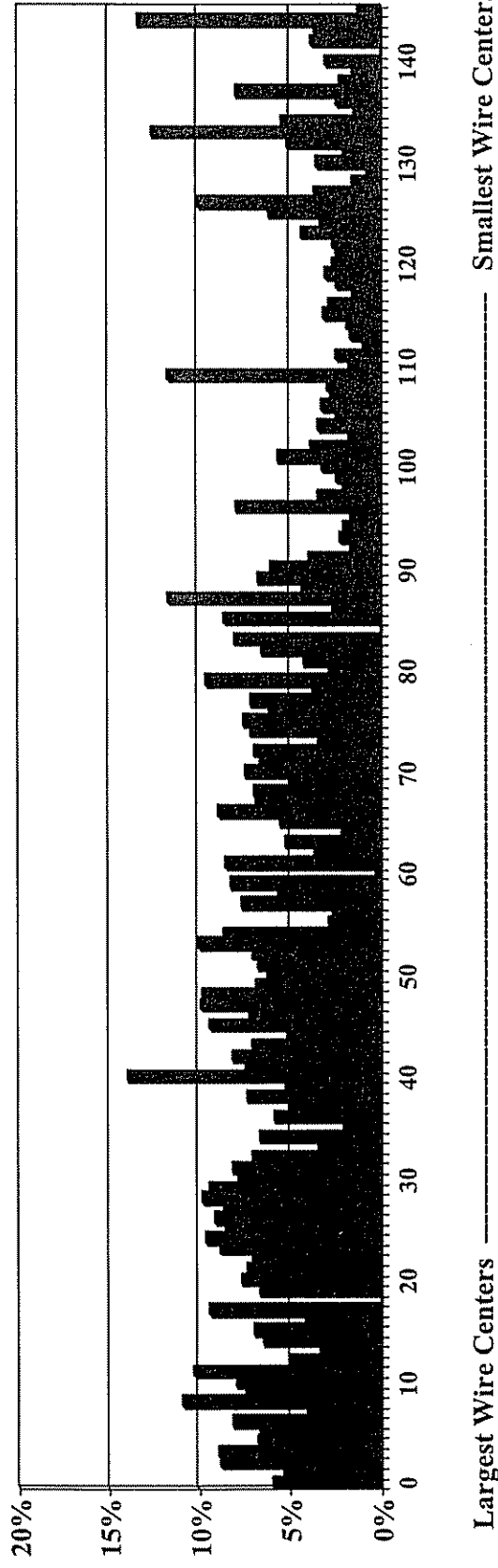
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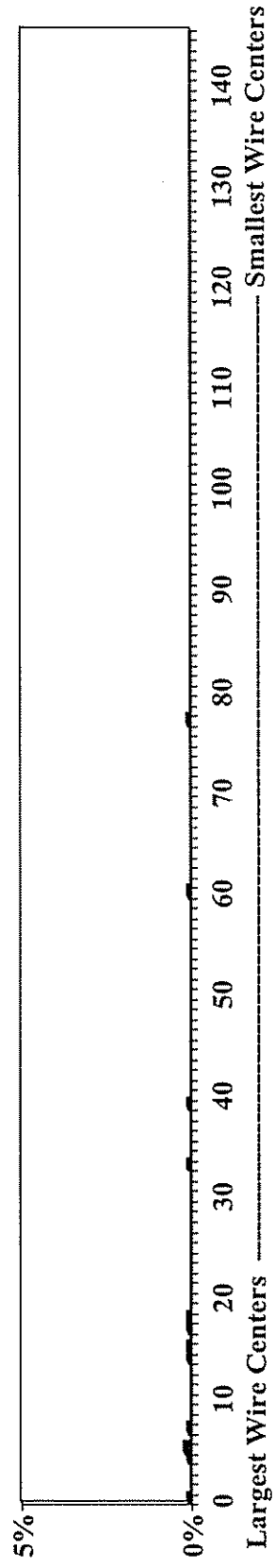
Filed: March 5, 2004

EXHIBIT JPG - 4

Competitive Profile of UNE-P Past 6 Months -- BellSouth in Alabama
Lines Added April 2003 through September 2003



Competitive Profile of UNE-L Past 6 Months -- BellSouth in Alabama



**BEFORE THE
ALABAMA PUBLIC SERVICE COMMISSION**

IN RE:

**Implementation Of The Federal Communications
Commission's Triennial Review Order (Phase II -
Local Switching for Mass Market Customers).**

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DOCKET NO. 29054

Filed: March 5, 2004

EXHIBIT JPG - 5

Redefinition of the BEA Economic Areas

By Kenneth P. Johnson

THIS ARTICLE presents the new regional economic areas defined by the Bureau of Economic Analysis (BEA) and discusses the procedures used to arrive at this disaggregation of the Nation on an economic basis.¹ The new disaggregation has 172 economic areas, and it replaces the 183-area disaggregation that BEA first defined in 1977 and then revised slightly in 1983 (table 1 and charts 1 and 2). The redefinition was undertaken in 1993 largely to incorporate newly available information on commuting patterns.²

To facilitate regional economic analysis, BEA provides geographically detailed economic data by economic area, as well as by State and by local area. BEA assembles economic area data on earnings by industry, employment by industry, total personal income, population, and per capita personal income. These data may be used to analyze local area economic activity, local interindustry economic relationships, and interarea population movements. In addition, the areas are used as major units for BEA's local area economic projections.³ Historical and projected economic area data are used by government agencies for planning public-sector projects and programs, by businesses for determining plant locations and sales territories, and by university and other research groups for doing regional economic studies.

Each economic area consists of one or more economic nodes—metropolitan areas or similar areas that serve as centers of economic activity—and the surrounding counties that are economically related to the nodes. The main factor used in determining the economic relationships among counties is commuting patterns, so each economic area includes, as far as possible, the place of work and the place of residence of its

labor force. The decision to redefine the areas reflects substantial changes in the commuting patterns, as indicated by data from the 1990 Census of Population, and changes in the definitions of metropolitan areas.⁴

In general, the redefinition procedure has three major elements. The first element is the identification of nodes. The second element is the assignment of counties to relatively small economic units known as "component economic areas" (CEA's); each CEA consists of a single economic node and the surrounding counties that are economically related to the node.⁵ The third element is the aggregation of the CEA's to the larger economic areas. For a diagrammatic representation of the redefinition procedure, see chart 3.

Identification of nodes

Economic nodes are metropolitan areas or similar areas that serve as centers of economic activity. Of the 3,141 counties in the Nation, 836 are metropolitan counties that make up the 310 metropolitan areas; each of these areas was identified as the node of a CEA.⁶ In addition, in parts of the Nation remote from metropolitan areas, 38 nonmetropolitan counties were each identified as a node.

Identification of most of the nonmetropolitan nodes was a four-part process. First, analysis of commuting data for the Nation's 2,305 nonmetropolitan counties showed that 1,112 of these counties are not closely related to a metropolitan area. Second, of these 1,112 counties, 130

1 See "Proposed Redefinition of the BEA Economic Areas," *Federal Register* 59 (November 7, 1994): 55 416-20; and "Final Redefinition of the BEA Economic Areas," *Federal Register* 60 (March 10, 1995): 13,114-18.

2 See "Intent to Revise the Boundaries of the BEA Economic Areas," *Federal Register* 58 (March 9, 1993): 13,049-50. See also Kenneth P. Johnson and Lyle Spatz, "BEA Economic Areas: A Progress Report on Redefinition," *SURVEY OF CURRENT BUSINESS* 73 (November 1993): 77-79.

3 See Regional Economic Analysis Division, "BEA Economic Area Projections of Income, Employment, and Population to the Year 2000," *SURVEY* 70 (November 1990): 39-43.

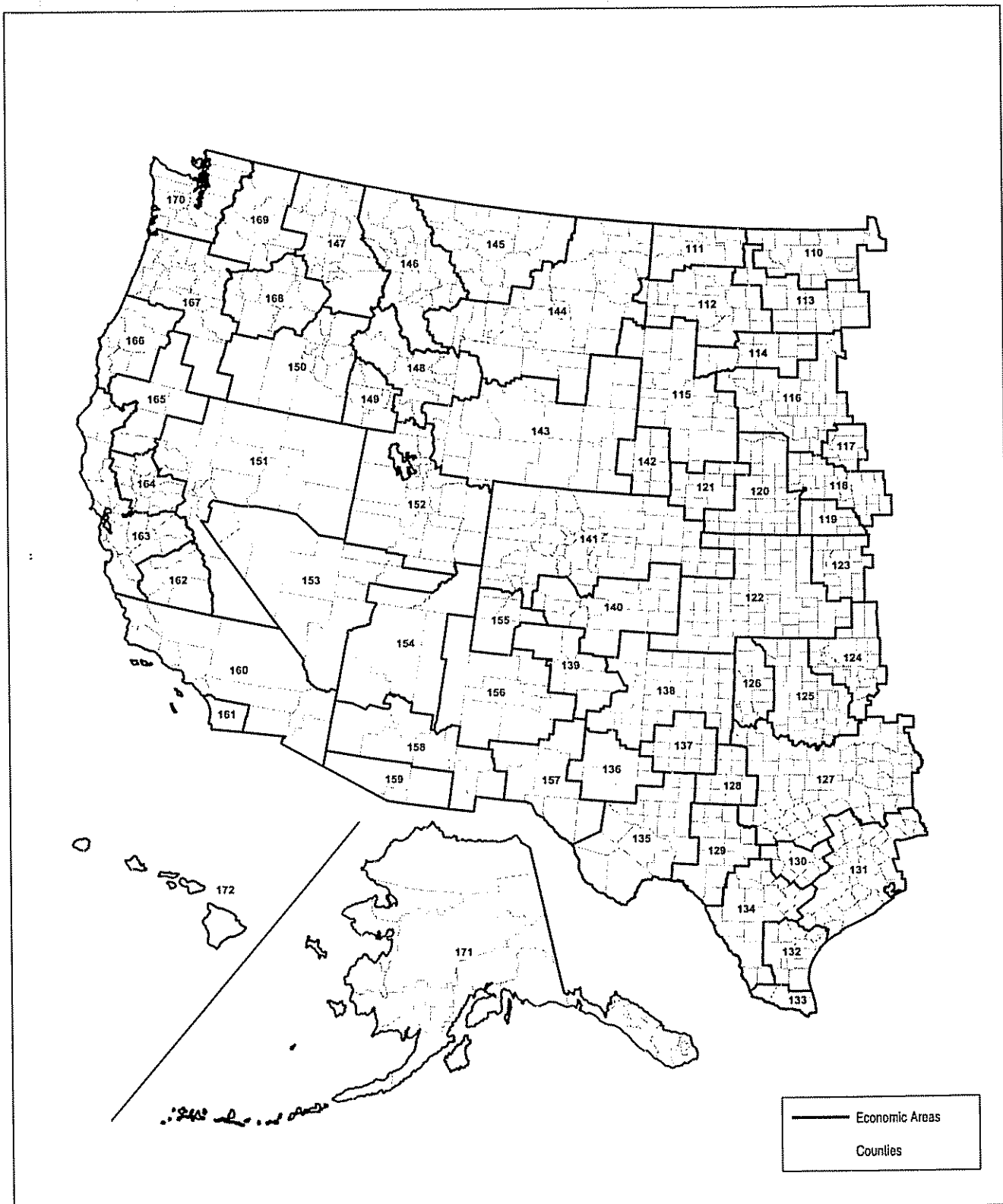
4 The redefinition reflects the changes in the metropolitan-area definitions issued in June 1993 by the Office of Management and Budget for statistical purposes; the definitions of metropolitan areas used by BEA are the county-based definitions. The 310 metropolitan areas consist of 240 metropolitan statistical areas, 59 primary metropolitan statistical areas (PMSA's), and 11 New England county metropolitan areas (NECMA's). (BEA treats the New Haven-Bridgeport-Stamford-Danbury-Waterbury, CT NECMA as a PMSA.)

5 Data for the CEA's can be used by government agencies for administering regulatory programs for small areas and by businesses for developing marketing programs for small areas.

6 The 3,141 counties are those defined as of January 1, 1990; they consist of counties and of areas classified as county equivalents for the 1990 census.

CHART 1

BEA Economic Areas, 110-172



NOTE.—The 172 BEA Economic Areas are defined as of February 1995. For economic-area codes and names, see table 1

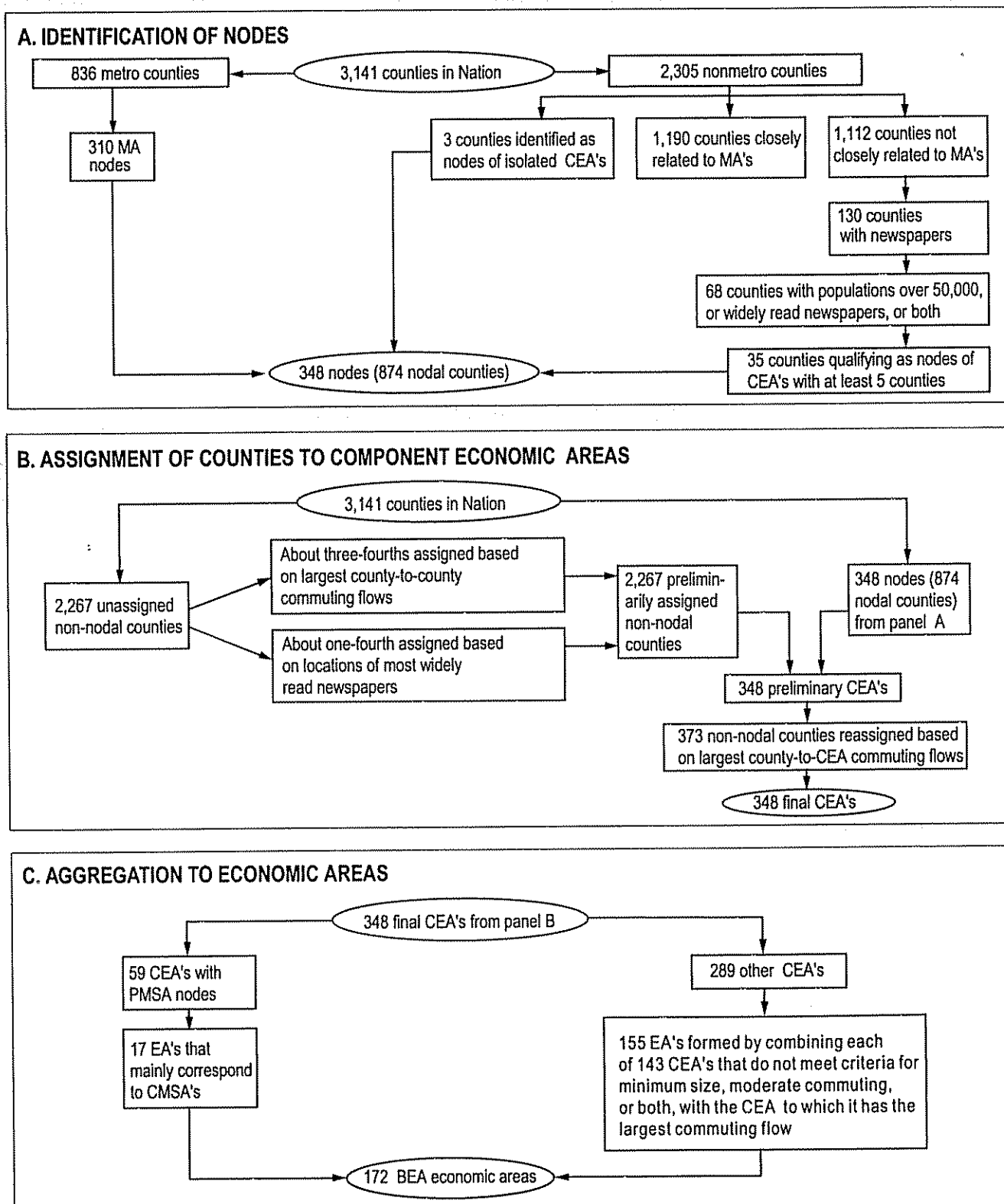
U.S. Department of Commerce, Bureau of Economic Analysis

CHART 2**BEA Economic Areas, 1-109**

— Economic Areas
 ··· Counties

NOTE.—The 172 BEA Economic Areas are defined as of February 1995. For economic-area codes and names, see table 1

U.S. Department of Commerce, Bureau of Economic Analysis

CHART 3**Redefinition Procedure**

CEA Component economic area
 CMSA Consolidated metropolitan statistical area
 EA Economic area
 MA Metropolitan area

Metro Metropolitan
 Nonmetro Nonmetropolitan
 PMSA Primary metropolitan statistical area

are locations of newspapers.⁷ Third, of these 130 counties, 68 have populations of more than 50,000, or their newspapers are widely read in at least five counties, or both. Fourth, only 35 of the 68 counties qualified as nodes of CEA's that could contain at least five counties. The CEA of each of these 35 nodal counties was named for the city in which the county's major newspaper is published.⁸

In addition, three nonmetropolitan counties were identified as nodes of CEA's because the county contained the largest city in the CEA. These CEA's, which are characterized by their relative economic isolation, are the Alaska panhandle, western Oklahoma, and northern Michigan.

Assignment of counties to component economic areas

Of the 3,141 counties in the Nation, 836 counties constitute the 310 metropolitan area nodes, and 38 counties are identified as nonmetropolitan nodes; together, these 874 counties constitute 348 nodes. Each of the remaining 2,267 non-nodal counties was analyzed to determine the node to which it is most closely related. About three-fourths of these counties were preliminarily assigned to nodes on the basis of their largest county-to-county commuting flows, according to journey-to-work data from the 1990 census. In many instances, the assignment reflected commuting flows to non-nodal counties already assigned to nodes rather than commuting flows to nodal counties. Most of the other counties were preliminarily assigned to nodes on the basis of the locations of the regional newspapers that are most widely read in those counties, according to newspaper circulation data.⁹ For all preliminary assignments, the non-nodal counties had to be contiguous to either the nodes or to non-nodal counties already assigned to the nodes.

The preliminary assignment of non-nodal counties to nodes—based on data at the county level—resulted in a preliminary set of CEA's. Data

Availability of Additional Information

The codes, names, and numbers of the counties in each economic area and CEA and of the CEA's in each economic area are available electronically on the Economic Bulletin Board (EBB) from the Commerce Department's STAT-USA. To access the EBB, use a personal computer and modem, dial (202) 482-3870, and follow the instructions. To access the EBB through Internet, use Telnet address "ebb-stat-usa.gov" for remote login, and download the file named "eacodes.exe." For prices and other information about these services, call (202) 482-1986.

The economic area information is also available on a 3½-inch, high-density diskette for \$20. When ordering, please specify the BEA Accession Number 61-95-40-101. Send your order, along with a check or money order payable to "Bureau of Economic Analysis," to Public Information Office, Order Desk, BE-53, Bureau of Economic Analysis, U.S. Department of Commerce, Washington, DC 20230. For further information or to order using MasterCard or VISA, call (202) 606-3700.

at both the county and CEA levels were then analyzed to ensure that, to the extent possible, each county was assigned to the CEA to which it has the largest commuting flow. This analysis resulted in the reassignment of 373 counties and in the definition of the final set of 348 CEA's.

Aggregation to economic areas

The 348 CEA's were used as "building blocks" for the new 172 economic areas. The CEA's were aggregated to economic areas so that (1) each economic area includes, as far as possible, the place of work and the place of residence of its labor force and (2) each economic area is economically large enough to be part of BEA's local area economic projections program.¹⁰ In general, the aggregation had two parts. First, the 59 CEA's with primary metropolitan statistical areas (PMSA's) as nodes were combined into 17 economic areas, which mainly correspond to the 17 consolidated metropolitan statistical areas (CMSA's) that comprise the PMSA's.¹¹ Second, each of the 143 CEA's that do not meet criteria for minimum size, for moderate commuting across CEA boundaries, or for both, was combined with the CEA to which it has the largest commuting flow.¹²

7 Data by county on newspaper publication and circulation are from the Audit Bureau of Circulations, an organization whose membership accounts for about 98 percent of U.S. newspaper circulation.

8 The cities are Flagstaff, AZ; Jonesboro, AR; Idaho Falls, ID; Twin Falls, ID; Quincy, IL; Manhattan, KS; Paducah, KY; Bowling Green, KY; Salisbury, MD; Traverse City, MI; Marquette, MI; Mankato, MN; Worthington, MN; Hattiesburg, MS; Meridian, MS; Tupelo, MS; Greenville, MS; Missoula, MT; Butte, MT; Grand Island, NE; North Platte, NE; Norfolk, NE; Scottsbluff, NE; Lebanon, NH; Hobbs, NM; Farmington, NM; Minot, ND; Pendleton, OR; Aberdeen, SD; Watertown, SD; Cookeville, TN; Lufkin, TX; Staunton, VA; Clarksburg, WV; and Bluefield, WV. Hattiesburg, MS was defined as a metropolitan statistical area by the Office of Management and Budget in mid-1994, after the redefinition was under way (see footnote 4).

9 The preliminary assignment of a small number of counties with special features, such as unusually small populations, was based on other procedures.


10 In its forthcoming set of regional projections, BEA plans to publish projections for States in the summer of 1995 and projections for the new economic areas and for metropolitan areas in early 1996.

11 A CMSA has more than 1 million residents and comprises two or more PMSA's.

12 The criteria for minimum size were developed from a combination of data on land area, on number of employed residents, and on number of

By definition, the labor force of an economic area should work and reside in that area, so commuting across boundaries should be limited. An evaluation of journey-to-work data from the 1990 census indicated that net numbers of commuters across the new economic area boundaries are indeed relatively low.¹³ About 80 percent of the 172 areas have net commuting rates of 1 percent or less.¹⁴ In contrast, again according to the 1990

journey-to-work data, only about 60 percent of the 183 areas defined in 1977 have net commuting rates of 1 percent or less.¹⁵

Table 1 follows. 

counties, and the commuting criteria were developed from journey-to-work data from the 1990 census

13 The net number of commuters is the difference between the number of in-commuters (nonresidents who commute to work in an economic area) and the number of out-commuters (residents who commute to work out of an economic area).

14 The net commuting rate is the difference between the in-commuting rate and the out-commuting rate; the rate of in-commuting (or out-

commuting) is the number of in-commuters (or out-commuters) as a percentage of the number of employed residents, regardless of their place of work.

15 In the early 1980's, when definitions of the 183 areas were confirmed on the basis of commuting data from the 1980 census, about 80 percent of the 183 areas then had net commuting rates of 1 percent or less.

Table 1.—Codes and Names for BEA Economic Areas

Code	Name	Code	Name
001	Bangor, ME	088	Shreveport-Bossier City, LA-AR
002	Portland, ME	089	Monroe, LA
003	Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH-RI-VT	090	Little Rock-North Little Rock, AR
004	Burlington, VT-NY	091	Fort Smith, AR-OK
005	Albany-Schenectady-Troy, NY	092	Fayetteville-Springdale-Rogers, AR-MO-OK
006	Syracuse, NY-PA	093	Joplin, MO-KS-OK
007	Rochester, NY-PA	094	Springfield, MO
008	Buffalo-Niagara Falls, NY-PA	095	Jonesboro, AR-MO
009	State College, PA	096	St. Louis, MO-IL
010	New York-No. New Jersey-Long Island, NY-NJ-CT-PA-MA-VT	097	Springfield, IL-MO
011	Harrisburg-Lebanon-Carlisle, PA	098	Columbia, MO
012	Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD	099	Kansas City, MO-KS
013	Washington-Baltimore, DC-MD-VA-WV-PA	100	Des Moines, IA-IL-MO
014	Salisbury, MD-DE-VA	101	Peoria-Pekin, IL
015	Richmond-Petersburg, VA	102	Davenport-Moline-Rock Island, IA-IL
016	Staunton, VA-WV	103	Cedar Rapids, IA
017	Roanoke, VA-NC-WV	104	Madison, WI-IL-IA
018	Greensboro-Winston-Salem-High Point, NC-VA	105	La Crosse, WI-MN
019	Raleigh-Durham-Chapel Hill, NC	106	Rochester, MN-IA-WI
020	Norfolk-Virginia Beach-Newport News, VA-NC	107	Minneapolis-St. Paul, MN-WI-IA
021	Greenville, NC	108	Wausau, WI
022	Fayetteville, NC	109	Duluth-Superior, MN-WI
023	Charlotte-Gastonia-Rock Hill, NC-SC	110	Grand Forks, ND-MN
024	Columbia, SC	111	Minot, ND
025	Wilmington, NC-SC	112	Bismarck, ND-MT-SD
026	Charleston-North Charleston, SC	113	Fargo-Moorhead, ND-MN
027	Augusta-Aiken, GA-SC	114	Aberdeen, SD
028	Savannah, GA-SC	115	Rapid City, SD-MT-NE-ND
029	Jacksonville, FL-GA	116	Sioux Falls, SD-IA-MN-NE
030	Orlando, FL	117	Sioux City, IA-NE-SD
031	Miami-Fort Lauderdale, FL	118	Omaha, NE-IA-MO
032	Fort Myers-Cape Coral, FL	119	Lincoln, NE
033	Sarasota-Bradenton, FL	120	Grand Island, NE
034	Tampa-St. Petersburg-Clearwater, FL	121	North Platte, NE-CO
035	Tallahassee, FL-GA	122	Wichita, KS-OK
036	Dothan, AL-FL-GA	123	Topeka, KS
037	Albany, GA	124	Tulsa, OK-KS
038	Macon, GA	125	Oklahoma City, OK
039	Columbus, GA-AL	126	Western Oklahoma, OK
040	Atlanta, GA-AL-NC	127	Dallas-Fort Worth, TX-AR-OK
041	Greenville-Spartanburg-Anderson, SC-NC	128	Abilene, TX
042	Asheville, NC	129	San Angelo, TX
043	Chattanooga, TN-GA	130	Austin-San Marcos, TX
044	Knoxville, TN	131	Houston-Galveston-Beaumont, TX
045	Johnson City-Kingsport-Bristol, TN-VA	132	Corpus Christi, TX
046	Hickory-Morganton, NC-TN	133	McAllen-Edinburg-Mission, TX
047	Lexington, KY-TN-VA-WV	134	San Antonio, TX
048	Charleston, WV-KY-OH	135	Odessa-Midland, TX
049	Cincinnati-Hamilton, OH-KY-IN	136	Hobbs, NM-TX
050	Dayton-Springfield, OH	137	Lubbock, TX
051	Columbus, OH	138	Amarillo, TX-NM
052	Wheeling, WV-OH	139	Santa Fe, NM
053	Pittsburgh, PA-WV	140	Pueblo, CO-NM
054	Erie, PA	141	Denver-Boulder-Greeley, CO-KS-NE
055	Cleveland-Akron, OH-PA	142	Scottsbluff, NE-WY
056	Toledo, OH	143	Casper, WY-ID-UT
057	Detroit-Ann Arbor-Flint, MI	144	Billings, MT-WY
058	Northern Michigan, MI	145	Great Falls, MT
059	Green Bay, WI-MI	146	Missoula, MT
060	Appleton-Oshkosh-Neenah, WI	147	Spokane, WA-ID
061	Traverse City, MI	148	Idaho Falls, ID-WY
062	Grand Rapids-Muskegon-Holland, MI	149	Twin Falls, ID
063	Milwaukee-Racine, WI	150	Boise City, ID-OR
064	Chicago-Gary-Kenosha, IL-IN-WI	151	Reno, NV-CA
065	Elkhart-Goshen, IN-MI	152	Salt Lake City-Ogden, UT-ID
066	Fort Wayne, IN	153	Las Vegas, NV-AZ-UT
067	Indianapolis, IN-IL	154	Flagstaff, AZ-UT
068	Champaign-Urbana, IL	155	Farmington, NM-CO
069	Evansville-Henderson, IN-KY-IL	156	Albuquerque, NM-AZ
070	Louisville, KY-IN	157	El Paso, TX-NM
071	Nashville, TN-KY	158	Phoenix-Mesa, AZ-NM
072	Paducah, KY-IL	159	Tucson, AZ
073	Memphis, TN-AR-MS-KY	160	Los Angeles-Riverside-Orange County, CA-AZ
074	Huntsville, AL-TN	161	San Diego, CA
075	Tupelo, MS-AL-TN	162	Fresno, CA
076	Greenville, MS	163	San Francisco-Oakland-San Jose, CA
077	Jackson, MS-AL-LA	164	Sacramento-Yolo, CA
078	Birmingham, AL	165	Redding, CA-OR
079	Montgomery, AL	166	Eugene-Springfield, OR-CA
080	Mobile, AL	167	Portland-Salem, OR-WA
081	Pensacola, FL	168	Pendleton, OR-WA
082	Biloxi-Gulfport-Pascagoula, MS	169	Richland-Kennewick-Pasco, WA
083	New Orleans, LA-MS	170	Seattle-Tacoma-Bremerton, WA
084	Baton Rouge, LA-MS	171	Anchorage, AK
085	Lafayette, LA	172	Honolulu, HI
086	Lake Charles, LA		
087	Beaumont-Port Arthur, TX		

NOTE.—Codes are assigned beginning with 001 in northern Maine, continuing south to Florida, then north to the Great Lakes, and continuing in a serpentine pattern to the West Coast. Except for the Western Oklahoma economic area (126), the Northern Michigan economic area (058), and the 17 economic areas mainly corresponding to CMSA's, each economic area is named for the

metropolitan area or city that is the node of its largest CEA and that is usually, but not always, the largest metropolitan area or city in the economic area. The name of each economic area includes each State that contains counties in that economic area.

**BEFORE THE
ALABAMA PUBLIC SERVICE COMMISSION**

IN RE:

**Implementation Of The Federal Communications
Commission's Triennial Review Order (Phase II ~
Local Switching for Mass Market Customers).**

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DOCKET NO. 29054

Filed: March 5, 2004

EXHIBIT JPG - 7

STATE OF CLEC COMPETITION

Introduction

Understanding precisely how CLECs offer competitive services is made difficult by the lack of public data on network operations. To provide greater understanding in this area, CCG Consulting, Inc. of Riverdale, Maryland was retained to develop survey data on CLEC network operations in six markets: Albany, NY, Augusta, GA, Boston, MA, Chicago, IL, Corpus Christi, TX and Portland, OR. These cities were selected because they represented a fairly broad cross-section of populations, business concentrations and serving incumbents.

CCG collected data from as many network-based competitors as possible in each of these markets. To protect the confidentiality of each CLEC, survey data was collected and aggregated by CCG Consulting. Companies that agreed to participate in the survey (in one or more markets) include:

Allegiance Telecom
AT&T
Birch Telecom
Broadview Networks
Choice One Communications
Conversent Communications
Covad
Electric Lightwave
Eschelon Telecom
Focal Communications
Ionex Communications
KMC Telecom
MCI Metro
McLeodUSA
New Edge Networks
NewSouth Communications
PaeTec Communications
TDS Metrocom
WorldCom
XO Communications

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Although the survey does not include every provider in each market, we believe the sample to be sufficiently large to be representative of CLEC network operations in the market overall. For five of the markets we collected data for the entire MSA. In Boston, the MSA was so large that the CCG collected data for the area inside of Interstate 495. The number of CLEC Class 5 switches in each market is as follows:

	Albany	Augusta	Boston	Chicago	Corpus	Portland
Number of CLEC Switches ¹	5	1	17	15	1	7

The selection of the “market footprint” for analysis was made more difficult by the wide variation in the statistical areas (such as the MSA) defined by the Census Bureau, as well as the variation in the market focus of the individual CLECs. Although individual CLECs do not generally define their target market to match MSA boundaries, we worked with each CLEC to make sure that the data was compiled across the same footprint for each participant. This issue foreshadows a characteristic that is common to each of the following summaries: each market is unique, with different factors, geographies and competitive conditions influencing CLEC activity.

Although this summary of the data collected by CCG is intended to be presented in as a neutral a manner as possible, we are compelled to report one common finding: Competitive facilities development is not only modest (compared to the incumbent and the market), it is kaleidoscopic with no clear pattern that applies to all markets. What the data confirms is that emerging investment strategies of the competitive industry are nearly as diverse as the industry itself. While the majority of competitors in each market rely extensively on incumbent facilities, there is nearly always an exception to this rule. Such diversity is to be expected in a competitive environment, particularly one in which no single strategy has shown itself to be inherently superior to all others. With this overall conclusion in mind, the following summarizes the data we collected.

¹ None of the CLECs in any of these markets offer wholesale switching to any other CLECs.

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Leased Customer Access

The starting point for our survey focused on how CLECs are leasing loops to gain access to end-user customers. We asked each CLEC to identify and quantify the different sources for leased facilities to end-user premises. The results are presented in Table 1.

Table 1: Source of Leased Loop Facilities by Surveyed CLECs

	Albany	Augusta	Boston	Chicago	Corpus	Portland
CLECs in Study	4	3	11	10	4	8
Total Market Voice Access Lines	560,487	270,157	3,567,497	5,688,622	220,866	762,382
Voice Grade 2-Wire UNE Loop	27,380	2,472	57,433	82,446	1,715	9,976
DSL UNE Loop	851	74	12,145	37,248	258	3,837
T1 UNE Loop	13	208	1,375	5,073	255	533
Retail T1 from ILEC	162	92	5,972	10,833	7	1,601
Retail T1 from 3 rd Party ²	7	0	422	2,161	0	0
DS3 UNE Loop	3	0	56	5	6	1
Retail DS3 from ILEC	17	0	217	501	0	128
Total	28,433	2,846	77,620	138,267	2,241	16,076

Table I relies on the following definitions of each loop type:

- **CLECs in Study.** This is the total number of CLECs who provided data for each of the markets.
- **Total Market Voice Access Lines.** This is the combination of the RBOC and the CLEC voice access lines for the study area. RBOC access lines came from HAI Model: Release FCC, loop counts as of 10/99. CLEC access line counts are roughly from the first quarter of 2002 (slightly different months for various CLECs). We did not have reliable RBOC data loop counts by MSA so we used voice access lines in order to demonstrate the relative size of the total market. However, the lack of data access lines understates total access lines.
- **Voice Grade 2-Wire UNE Loops** are Unbundled Network Element loops purchased directly from the ILEC from an interconnection agreement. A CLEC must be collocated to be able to order a 2-wire UNE Loop.

² This category includes DS-1s where the billing entity differs from the ILEC, but where the DS1 facility itself may be provisioned using the ILEC network facility. Thus this category is the maximum *potential* number of DS1s obtained from 3rd parties in that market and may, or may not, indicate the emergence of a nascent market in that MSA.

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- **Digital Subscriber Line (DSL) UNE Loop** consists of a 2-wire clean copper DSL-capable loop. These quantities include DSL with and without line-sharing. Without line-sharing the CLEC gets a copper pair certified to have unimpeded signal to at least 12,000 feet. With line-sharing the CLEC gets the ability to offer DSL over a pair that is also providing ILEC voice service to the subscriber. These lines can be used to support a variety of types of DSL and the lines can often support data or voice. The use of these loops requires the collocation of DSLAMs, or DSL base stations.
- **T1 UNE Loop** consists of a 4-wire 1.544 Mbps capable unbundled loop purchased from an interconnection agreement. The CLEC must be collocated in order to utilize T1 UNE loops. The ILEC supplies these loops with T1 capable electronics.
- **T1 Retail Loop from the ILEC** consists of a 4-wire 1.544 Mbps retail circuit purchased from ILEC's retail tariff or access tariff. As a retail purchaser the CLEC is treated like any other ILEC customer in terms of product, price and term.
- **T1 Retail Loop from a 3rd Party** is a 4-wire 1.544 Mbps retail circuit purchased from a carrier other than the ILEC. The other providers in these particular markets are always interexchange carriers. None of the CLECs in these particular markets sell wholesale loops of any kind to other CLECs. We believe that the majority of these loops are ultimately served by and resold from the ILEC local network. Purchasing from a third party does not automatically equate to using an alternate network from the ILEC. In fact, we believe that the majority of these loops are really RBOC loops.
- **DS3 UNE Loop** is a UNE fiber loop cable of supporting a DS3 purchased from the ILEC from an interconnection agreement. These loops come with ILEC-provided electronics.
- **Retail DS3 from the ILEC** is a retail DS3 purchased from ILEC's retail tariff or access tariff. As a retail purchaser the CLEC is treated like any other ILEC customer in terms of product, price and term.

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Table 2: Relative Size of the Largest CLEC for each Loop Category

	Albany	Augusta	Boston	Chicago	Corpus	Portland
Voice Grade 2-Wire UNE Loop	85%	100%	50%	31%	100%	77%
DSL UNE Loop	100%	100%	84%	94%	96%	91%
T1 UNE Loop	100%	71%	81%	80%	100%	47%
Retail T1 from ILEC	62%	96%	33%	44%	100%	55%
Retail T1 from 3 rd Party	100%	N/A	93%	99%	N/A	N/A
DS3 UNE Loop	100%	N/A	84%	100%	100%	100%
Retail DS3 from ILEC	100%	N/A	82%	62%	N/A	47%

CLECs vary significantly in the manner in which they conduct business and thus in the way that they use loops. Table 2 shows the relative size of the single largest CLEC in each market for each loop category. This table is driven from the loop numbers presented in Table 1 above. As an example, Table 2 shows that in Albany that one CLEC uses 85% of the 27,380 voice grade 2-wire UNE loops shown in Table 1. Since the business plans of CLECs vary so widely, the CLEC that uses the greatest number of one type of loop may not necessarily use loops of other types. Again, using Albany as an example, the CLEC who uses 85% of the voice grade 2-wire UNE loops may not be the same CLEC who uses 100% of the DSL UNE loops.

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On-Net Customer Access

In addition to relying on leased facilities, some CLECs have developed limited fiber networks that enable them to reach some buildings entirely over their own facilities. In our survey we define On-Net facilities to be those facilities where the CLEC owns both the physical loop and the electronics at both ends of the loop.

We have quantified CLEC On-Net opportunity by the number of buildings connected, the potential capacity of these systems and the number of T1 equivalents actually operating in Table 3. In addition, we have analyzed the geographic focus of CLEC facilities, which generally serve limited portions of each market (discussed below).

Table 3: On-Net Capability of Surveyed CLECs

	Albany	Augusta	Boston	Chicago	Corpus	Portland
Fiber CLECs/Total CLECs	1/4	1/3	4/11	5/10	1/4	4/8
Number of Connected Buildings	24	13	473	390	18	183
Buildings with Wholesale Loops	0	0	0	0	0	0
Buildings with Wholesale Dark Fiber	0	0	0	0	0	0
Number of Establishments in MSA	16,616	7,728	127,453	184,912	7,390	48,881
Number of Fiber Terminals	24	13	560	501	18	217
Fiber Terminal Capacity						
OC-48	0	0	224	236	1	47
OC-12	2	1	144	146	2	40
OC-3	22	12	192	118	15	130
Equivalent T1s Activated	85	66	4,332	4,394	125	551
Active T1s per Building	3.5	5.1	9.2	11.3	7.0	3.0

Following are the definitions of each line of the Table 3:

Fiber CLECs / Total CLECs. Fiber CLECs are those CLECs with at least one customer defined as an On-Net customer. On-Net is defined as a customer where the CLEC owns the loop and the electronics to reach the customer. All CLECs reported that On-Net customers in these markets were being served using fiber. Total CLECs are the total CLECs who participated in the survey for the given market.

Number of Connected Buildings represents the number of discrete street addresses with On-Net customers. These are often referred to as “lit” buildings. Note that lit buildings

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are lower than fiber terminals in markets where some buildings are served by multiple CLECs.

Buildings with Wholesale Loops. Of the connected buildings, these are the buildings where a CLEC offers wholesale loops to other CLECs. None of the CLECs in these markets offers wholesale loops to other CLECs.

Buildings with Wholesale Dark Fiber. Of the connected buildings, these are the buildings where a CLEC offers dark fiber to other CLECs. None of the CLECs in these markets offers dark fiber to other CLECs.

Number of Establishments represents the total number of businesses in the market. The source of the number is Census Bureau data of Business Establishments/MSA.

Fiber Terminal Capacity shows the quantity of various sizes of fiber terminals installed in the lit buildings. The CLECs all reported that very few of these facilities are fully equipped or are fully utilized. For example, a CLEC may have an OC-48 terminal in a building but only have it equipped with a few OC-3 cards.

Equivalent T1s Activated represents the active total equivalent T1s of service that are in place in lit buildings. We also show the number of equivalent T1s per lit building.

Location of On-Net Buildings

The On-Net locations tend to be in the downtown area where CLEC owned fiber networks are most likely to exist. As discussed below, nearly all On-Net buildings are located in very limited geographical sections and pockets in each MSA.

Albany

Of the 41 On-Net buildings in Albany, 37 are within the City limits. Of those, 32 are in the downtown area.

Augusta

In Augusta all of the On-Net buildings are downtown. Eleven of the thirteen lit buildings are on two city streets.

Boston

There are 473 lit buildings in Boston. Of these, 325, or 69% are located in the three exchanges serving the downtown area. The remaining buildings are scattered throughout the study area. However, there is a low density of lit buildings in suburban area and very

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few exchanges outside of the downtown area have more than 2 or 3 lit buildings in the entire exchange.

Chicago

Chicago has 390 lit buildings. 190 of these buildings are within the city limits. The majority of the remaining lit buildings are relatively close to major highways (i.e., Interstate 90, Interstate 84, Interstate 88 and Interstate 290).

Corpus Christi

There are 18 lit buildings in Corpus Christi. 12 of these buildings are clustered downtown.

Portland

The Portland MSA has 183 lit buildings. 132 of the buildings are within the city limits or Portland. The remaining On-Net buildings are clustered at various locations around the MSA. For example, there are 27 buildings clustered close together in Beaverton and 11 buildings clustered together in Vancouver, Washington.

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Network Connectivity

As indicated above, CLECs depend heavily on ILEC access to reach and serve customers. As shown in Table 4 below, CLECs facilities are predominately deployed in digital configurations.

Table 4: Comparing Analog and Digital Connectivity³

	Albany	Augusta	Boston	Chicago	Corpus	Portland	Overall
Analog Connectivity ⁴	27,380	2,472	57,433	82,446	1,715	9,976	181,422
DS1 Connectivity	6,408	8,784	290,424	539,064	9,288	64,440	918,408
DS3 Connectivity	13,440	0	183,456	340,032	4,032	86,688	627,648
Percent Digital	42.0%	78.0%	89.2%	91.4%	88.6%	93.8%	89.5%

³ The quantities in this table are Voice Grade Equivalents.

⁴ CCG is aware that some analog loops are being used to provide xDSL services and, as such, should more properly be counted as a form of digital connectivity. CCG does not, however, have the data to identify the percentage of the purchased analog loops that have been configured to provide such service.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing has been served upon the following by U.S.


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